

KRUPIN, Grigoriy Vasil'yevich, prof.; KHAN, Kharlampy  
Kharitonovich, inzh. Prinimali uchastike: RYABIKOV, V.F.;  
LEVIN, B.K.; DEDYULIN, N.D., retsenzent; GATILIN, N.F.,  
retsenzent; KUZ'MINA, V.S., red.

[Designing enterprises of the dairy industry] Proektirova-  
nie predpriatii molochnoi promyshlennosti. Meskva, Pi-  
shchevaiia promyshlennost', 1964. 399 p. (MIRA 18:3)

BOCHVAR, A.A. (Moskva); ABRAMOVA, V.A. (Moskva); KHAN, M.G. (Moskva)

Twinning during the deformation of metals. Izv. AN SSSR. Mat. i  
gor. delo ro.1:92-94 Ja-F '64. (MIRA 17:4)

BILICH, G.L.; KHAN, N.A.

Rare complication following surgery for strangulated hernia in  
a child. Vest. khir. 93 no.12:92 D '64.

(MIRA 18:5)

1. Iz otdeleniya khirurgii detskogo vozrasta (zav. - G.L.Bilich)  
gorodskoy detskoy bol'nitsy (glavnnyy vrach - T.I.Zimovets) goroda  
Karagandy.

KHAN, O. A.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
Metallurgy and Metallography

3

② 11C!

✓ Mechanism of anodic solution of copper-nickel alloys.  
A. A. Bulat and O. A. Khan. *Transl. Amer. Nauch. Kazakh. S.S.R. No. 123, Ser. Khim. No. 7, 95-104 (1963).*—Anodic soln. of Cu-Ni alloys that had been heat-treated and have a more equilibrated structure proceeds with higher anodic yields and with lower yield of mud than occurs with alloys that are cast and not equilibrated. In cast alloys Cu goes into soln., primarily in the form of that solid soln. which is least rich in Cu; in cast alloys there is greater opportunity for waste formation owing to falling out of passivated grains of the alloy which suffered thermal deformation on cooling.  
G. M. Kosolapoff

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721720017-4

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CIA-RDP86-00513R000721720017-4"

KHAN, O.A.; PARAMONOV, I.V.; STEPANOVA, L.S.

~~Purification of solutions and the distribution of arsenic and~~  
~~antimony in the hydrometallurgy of zinc. TSvet.met.27 no.3:20-24~~  
~~My-Je '54. (MIRA 10:10)~~  
~~(Zinc--Metallurgy) (Antimony) (Arsenic)~~

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KHAN CO. 8

U.S.S.R.

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721720017-4"

KHAN, O. A.

Structure of copper-nickel anodes in the process of slime formation. A. A. Bulakh and O. A. Khan (Inst. Chem. Sci., Acad. Sci. Kazakh S.S.R.). *Zhur. Priklad. Khim.* 27, 111-12 (1954). — Cast and annealed Cu-Ni anodes were electrolyzed under conditions which are obtained in com. practice. Slime formation was greater with cast than with annealed anodes. This was accounted for by the dendritic structure of heterogeneous compn. of the cast anodes; the solid solns. low in Cu went into soln., whereas those rich in Cu possessing a higher electropos. potential pptd. out as slime.

I. Bercowitz

11-10-51

U.S.S.R.

✓ Potentials of copper and nickel sulfides. A. A. Bulakh  
and O. A. Khan. J. Appl. Chem. U.S.S.R. 27, 115-8  
(1954) (new translation).—See C.A. 43, 80871.

H.L.H.

KHAN, O. A.

(3)

Potentials of copper and nickel sulfides. A. S. Bulakh and O. A. Khan (Inst. Chem. Sci. Acad. Sci. Kazakh. S.S.R.).

Zhur. Priklad. Khim. 27, 160-70 (1954); cf. Vainisik and Chizhikov, C.A. 44, 3916i.—The potentials  $\eta$  of  $\text{Cu}_2\text{S}$  and  $\text{Ni}_3\text{S}_2$  were detd. under conditions which occurred in practice, at 0° and in a soln. consisting of  $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$  200,  $\text{Na}_2\text{SO}_4$  40,  $\text{H}_2\text{BO}_4$  20, and  $\text{NaCl}$  3 parts. The static  $\eta$  (in the absence of current) of  $\text{Cu}_2\text{S}$  was more electropos. than that of  $\text{Ni}_3\text{S}_2$ . The latter attained its equil. value of 0.07 v. within 10 min.; the former at 0.4 v. in 4 hrs. The dynamic anodic  $\eta$  vs. time of  $\text{Ni}_3\text{S}_2$  at c.d.s. of 200 and 400 amp./sq. in. were almost identical curves reaching equil. at 2.26 and 2.30 v. in 4 hrs. For  $\text{Cu}_2\text{S}$  the 2 curves differed: with 200 amp./sq. in. the curve became horizontal at 1.20 v. within 30 min.; with 400 amp./sq. in. the curve rose almost vertically at 1.2 v. within 30 min. Similar curves were obtained with  $\text{Cu}_2\text{S}$  in 1N  $\text{CuSO}_4$ . This was explained on the assumption that at the lower c.d. the reaction proceeded to form  $\text{CuS}$  and  $\text{Cu}^{++}$  whereas at the higher c.d.  $\text{S}$  and  $\text{Cu}^{++}$  were formed. This was supported by the appearance of the anode, bluish at 200 and yellow at 400 amp./sq. in.

I. Benowitz

NPF  
11-10-54

lized in electroplating.

Card 1/1

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137-58-4-6852

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 76 (USSR)

AUTHOR: Khan, O.A.

TITLE: On the Reasons for Difficult Peeling of Cathodic Zinc (O prichinakh trudnoy sdirki katodnogo tsinka)

PERIODICAL: Tr. soveshchaniya po metallurgii tsinka, 1954, Moscow, Metallurgizdat, 1956, pp 200-207

ABSTRACT: Controlled experiments lead to the conclusion that the main reason for difficult peeling of cathodic zinc is the combined effect of  $\text{F}_2$  and other impurities in the Zn electrolyte. Careful removal of  $\text{F}_2$  and other impurities from Zn solutions down to levels compatible with the standard process of Zn electrolysis is necessary.

G.S.

1. Zinc--Plating--Processes

SOV/137-57-6-9809

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 71 (USSR)

AUTHORS: Khan, O.A., Dukhankina, L.S.

TITLE: Joint Precipitation of Antimony and Iron With Neutralization of Sulfate Solutions in the Hydrometallurgy of Zinc (O sovmestnom osazhdenii sur'my i zheleza pri neytralizatsii sernokislykh rastvorov v gidrometallurgii tsinka)

PERIODICAL: Tr. Altaysk. gorno-metallurg, n.-i. in-ta, 1956, Nr 3, pp 122-131

ABSTRACT: A study is made of the effect of the concentration of  $Te^{3+}$  ions and variation in the acidity of the medium upon the behavior of Sb in the process of neutralization of sulfate solutions. The experiments are run with synthetic and industrial  $ZnSO_4$  solutions neutralized by fine-ground  $ZnO$  and  $NaOH$  solution with temperature variations held to  $\pm 0.5^\circ C$  from the given level and a constant rate of stirring for 2 hours after introduction of the precipitant. The Sb and  $H_2SO_4$  concentrations in the starting solutions are 34-37 and 10 g/liter, respectively. It is found that when they are neutralized by  $NaOH$  solution, the pH of onset of the combined precipitation of Sb

Card 1/3

SOV/137-57-6-9809

## Joint Precipitation of Antimony and Iron (cont.)

and Fe is determined by the onset of the process of  $\text{Fe}_2(\text{SO}_4)_3$  hydrolysis of corresponding strength, and is equal to 2.0-2.3. With increase in the Fe/Sb ratio of the starting solution, precipitation of Sb and Fe begins and ends at lower pH; herein, it is noted, the residual Sb concentration decreases with increasing Fe concentration. Identical results are obtained in precipitation of Sb and Fe by Zn oxide: Sb is precipitated in full, if in the initial solution  $\text{Fe}/\text{Sb} = 5-6$ . In experiments with precipitation of Sb from industrial solutions by neutralization of  $\text{ZnO}$  it is found that the bulk of the Sb comes down at pH of less than 3-3.5, but that a medium of 5-5.2 pH is required for complete precipitation of this impurity. The conclusion is drawn that the cause of the combined precipitation of Sb and Fe is the reaction of the Sb ions with particles of Fe hydroxide. In the process, compounds of the basic antimonate category come into being in accordance with the reaction  $m\text{Fe}(\text{OH})_3 + n\text{H}_3\text{SbO}_4 \rightarrow [\text{Fe}(\text{OH})_3]_{m-n} \cdot n\text{FeSbO}_4 + 3n\text{H}_2\text{O}$ . The precipitation of Sb in the form of such compounds is explained by the fact that when sulfate solutions are neutralized, Fe goes from the ionic condition ( $\text{Fe}^{3+}$ ) through the colloidal into the solid (Fe hydroxide gel). Particles of Fe hydroxide adsorb the free  $\text{Fe}^{3+}$  ions and acquire a positive charge. In the presence of  $\text{SbO}_4^{3-}$  ions, the charge on the particles of Fe hydroxide is neutralized in the course of their reaction:  $[\text{Fe}(\text{OH})_3]_{m-n} \text{Fe}^{3+} + n\text{SbO}_4^{3-} \rightarrow [\text{Fe}(\text{OH})_3]_{m-n} \text{FeSbO}_4$ . The process is Card 2/3

SOV/137-57-6-9809

Joint Precipitation of Antimony and Iron (cont.)

facilitated by the fact that the Sb ions are capable of forming difficultly-soluble chemical compounds. Increase in the level of precipitation of Sb with rise in temperature is one of the proofs that the reaction between particles of Fe hydroxide and Sb ions is a chemical process.

A. Ye.

Card 3/3

SOV/137-57-6-9790

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 69 (USSR)

AUTHORS: Dukhankina, L.S., Khan, O.A., Gorbaneva, Z.I.

TITLE: The Solubility of Antimony Oxides in Zinc Sulfate Solutions (Rastvorimost' okislov sur'my v rastvorakh sernokislogo tsinka)

PERIODICAL: Tr. Altaysk. gorno-metallurg. n.-i. in-ta, 1956, Vol 3, pp 132-135

ABSTRACT: An isothermal method is used to study the solubility (S) of Sb oxides in chemically pure preparations in neutral  $ZnSO_4$  solutions, there being 18 g  $H_2SO_4$ /liter. It is found that the S of  $Sb_2O_3$  with elevated Zn concentrations of from 20 to 120 g/liter rises from 0.0718 to 0.1162 g/liter, the S of  $Sb_2O_5$  being constant and equal to ~0.14 g/liter. As temperature rises from 20 to 80°, the S of Sb oxides in  $ZnSO_4$  solution rises at Zn concentrations of 120 g/liter, while in a solution acidified by  $H_2SO_4$  (up to 18 g/liter), the S curves lie considerably higher. Sb concentration may attain 700 mg/liter in solutions of nearly commercial composition.

A. Ye.

Card 1/1

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CIA-RDP86-00513R000721720017-4"

137-1958-2-2655

*Khan, O. A.*  
 Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 65 (USSR)

AUTHORS: Dukhankina, L. S., Khan, O. A.

TITLE: The Effect of Copper and Aluminum Ions on the Behavior of Antimony in the Neutralization of Zinc Sulfate Solutions (O vliyanii ionov medi i al'yuminii na povedeniye sur'my pri neytralizatsii sernokislykh tsinkovykh rastvorov)

PERIODICAL: Tr. Altaysk. gornometallurg. n.-i. in-ta, 1957, Vol 4, pp 84-88

ABSTRACT: A study was made of the effect had by ions of Cu and Al on the behavior of Sb in a  $ZnSO_4$  solution containing free  $H_2SO_4$ . Precipitation of Sb from a solution containing 100 grams/liter Zn, 10 g/l  $H_2SO_4$ , 1.02-5.4 g/l Cu or 0.1-1 g/l Al, and 26.2-27 mg/l Sb was found to be accompanied by hydrolysis of the Cu and Al sulfates. When Cu ions were present during neutralization of a  $ZnO$  solution, the Sb was partially precipitated, and its residual concentration was practically independent of the initial Cu-ion content of the solution. When a  $ZnO$  solution containing  $Al^{3+}$  was neutralized, the final pH values being 5.1-5.3, precipitation of Sb was virtually complete, i.e., under the conditions of a neutralizing leaching the Al helped to purify the solutions completely of Sb.

B.Z.

Card 1/1

1. Zinc sulfate—Solutions 2. Antimony—Behavior 3. Copper ions  
 —Effects 4. Aluminum ions—Effects

*Khan, O. A.*  
 Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 63 (USSR)

AUTHORS: Khan, O. A., Urubkova, E. I., Kuznetsova, V. A.

TITLE: An Electrolytic Method for the Production of High-purity Zinc (Elektroliticheskiy metod polucheniya tsinka vysokoy chistoty)

PERIODICAL: Tr. Altaysk. gornometallurg. n.-i. in-ta, 1957, Vol 5,  
 pp 76-81

ABSTRACT: In order to obtain high-purity Zn from Ts-O type metal, a method of electrolytic refining of Zn in a "neutral" solution of zinc sulfate was tested under semi-industrial conditions. The apparatus employed was vinyl-plastic coated, a diaphragm made of vinyl perchlorate fibers, an electrolyte free of all impurities, and distilled water. The following optimal regimen was established for the process:  $D_k = 900-1200 \text{ a/m}^2$ ; Zn content in the electrolyte: 90-120 g/liter; temperature of the electrolyte: 25°-35°; duration of the electrolysis process: 6 hours. Cathodic Zn contained (in percent): Fe < 0.0005, Cd < 0.003, Cu < 0.0003, Pb < 0.003, and Sn < 0.0001.

L.P.

Card 1/1

CIA93

SOV/137-59-5-10155

18.3100  
Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, pp 101 - 102  
(USSR)

AUTHORS: Khan, O.A., Urubkova, E.I., Kuznetsova, V.A.

TITLE: A New Hydrometallurgical Method of Obtaining High-Purity Zinc

PERIODICAL: Rudnyy Altay, (Sovnarkhoz Vost.-Kazakhstansk. ekon. adm. r-na),  
1958, Nr 1, pp 26 - 28

ABSTRACT: The authors developed a technological system of obtaining high-purity Zn by the method of electrolytic Zn refining in a  $ZnSO_4$  solution with profound purification of the spent electrolyte from impurities. Electrolytic refining was carried out in rectangular tanks lined with "viniplast" (vinyl plastic), at  $D = 800 - 1,000$  amps/ $m^2$  and  $35^\circ - 40^\circ C$ . Purified electrolyte, containing  $100 - 110$  g/l of Zn, was continuously supplied to the tanks. Anodes of  $30 - 35$  kg weight were cast of "TsO" and "TsV" grade electrolytic zinc. The cathode spaces in the baths were separated from the anode spaces by perchlorovinyl or caprone diaphragms on a "viniplast" carcass. The initial solution was

Card 1/2

SOV/137-59-3-5477

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 77 (USSR)

AUTHOR: Abdeyev, M. A., Ablanov, A. D., Khan, O. A.

TITLE: Study of the Process of Conversion of Multimetal Mattes With Blowing of Liquid Fuel Into the Melt (Izuchenie protessa konvertirovaniya polimetallicheskikh shteynov s vduvaniyem v rasplav zhidkogo topliva)

PERIODICAL: Tr. Altaysk. gornometallurg. n.-i. in-ta 1958, Vol 6, pp 147-156

ABSTRACT: In order to increase the degree of sublimation of Pb and Zn during conversion, liquid fuel was blown in, promoting a 100-120°C increase in temperature as compared to the temperature of the conventional process. The increase in temperature results in a reduction in the magnetite and ferrite content of the slags and, hence, the viscosity of the slags, and increases the rate of sublimation of Pb and to some extent of Zn. The increase in the rate of sublimation of Zn can be achieved by increasing the temperature of the conversion process to 1300° with preoxidation of the matte without adding quartz.

Ya. K.

Card 1/1

SMIRNOV, V.M.; SIMAKOV, K.M.; ABDYEV, M.A.; KHAN, O.A.; LUNEV, V.Ye.

Metallurgy in the Altai during the 40 years of Soviet government.  
Trudy Alt. GMNII AN Kazakh. SSR no.7:15-28 '58.

(MIRA 12:7)

(Altai Territory--Nonferrous metals--Metallurgy)

*Khan O.A.*  
KHAN, O.A.; ABIEYEV, M.A.

Scientific-technical anniversary conference. Vest. AN Kazakh. (MIRA 11:2)  
SSR 14 no.1:101-102 Ja '58.  
(East Kazakhstan Province--Mineral industries)



SOV/80-32-4-20/47

## On the Cathode Separation of Zinc From Zinc-Sulfate Solutions With a High Concentration of Iron Ions

plates served as a cathode and plates of lead-silver (1% Ag) alloy as an anode. The results of the experiments are presented in a table from which it is seen that iron concentration in the deposit rises with both an increase in the iron ion concentration in the solution and with an increase of the current density. The cathode yield of zinc from the Zn - Fe solution is relatively high. Figure 1 shows that the partial yield of zinc rises with an increase of temperature and falls with an increase in the  $\text{Fe}^{2+}/\text{Zn}$  ratio in the electrolyte. If the electrolysis is conducted in a bath without a diaphragm, the cathode yield of the alloy as well as the partial yield of zinc are sharply reduced. There are 3 graphs, 1 table and 15 references, 12 of which are Soviet, 2 German and 1 English.

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sov/80-32-4-20/47

On the Cathode Separation of Zinc From Zinc-Sulfate Solutions With a High Concentration of Iron Ions

ASSOCIATION: Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy institut Akademii nauk KazSSR (Altai Mining Metallurgical Scientific Research Institute of the AS KazSSR)

SUBMITTED: September 4, 1957

Card 3/3

SALTOVSKAYA, L.A.; KHAN, O.A.; PONOMAREV, V.D.

Electrolytic recovery of lead from chloride solutions. Izv. AN  
Kazakh.SSR.Ser. met. obog. i ogneup. no.3:17-26 '60. (MIRA 14:4)  
(Lead--Electrometallurgy)

S/137/61/000/001/003/043  
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 1, p. 17,  
# 10158

AUTHORS: Giganov, G.P., Ponomarev, V.D., Khan, O.A.

TITLE: On the Composition of Niobium and Tantalum Complexes Extracted  
With 3-Butylphosphate

PERIODICAL: Izv. AN KazSSR Ser. metallurgii, obogashcheniya i ogneuporov, 1960,  
No. 3 (6), pp. 73 - 78 (Kaz. summary)

TEXT: The authors describe a graphical method of determining the composition of Ta and Nb complexes extracted from a mixture of  $H_2SO_4$  and HF acids with the aid of tributylphosphate. An investigation of the distribution coefficient of each of the metals and acids depending on the amount of tributylphosphate in the organic phase (kerosene) has shown that the acids are extracted in the form of complexes:  $H_2SO_4$  . tributylphosphate and HF . tributylphosphate. Ta apparently forms a dissolvate  $H_2TaF_7$  . 2-tributylphosphate, and Nb a complex  $H_2NbF_7$  . tributylphosphate. Highest distribution coefficients are obtained for

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S/137/61/000/001/003/043  
A006/A001

On the Composition of Niobium and Tantalum Complexes Extracted With 3-Butylphosphate

Ta in the presence of  $H_2SO_4$  in the initial solution and minimum HF concentration; for Nb in the presence of  $H_2SO_4$  and HF concentration  $> 7\%$ . At a low HF concentration niobium is present in the solution in the form of a non-extractable complex  $H_2NbOF_5 \cdot H_2O$ .

M. L.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

KHAN, O.K.; URUBKOVA, E.I.; SHESTAKOVA, V.A.

New hydro- and electrometallurgical flowsheet for obtaining high purity zinc. Trudy Alt. GMNII AN Kazakh. SSR 9:173-180 '60.  
(MIRA 14:6)

1. Altayskiy gornometallurgicheskiy nauchno-issledovatel'skiy institut AN Kazakhskoy SSR (for Khan, Shestakova). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov (for Urubkova).

(Zinc—Electrometallurgy)  
(Hydraulic metallurgy)

SALTOVSKAYA, L.A.; PONOMAREV, V.D.; KHAN, O.A.

Separation of copper and lead from chloride solutions by the  
cementation method. Trudy Alt. GMNII AN Kazakh SSR 9:221-226  
'60. (MIRA 14:6)

1. Altayskiy gornometallurgicheskiy nauchno-issledovatel'skiy  
institut AN Kazakhskoy SSR (for Saltovskaya, Khan).
2. Institut metallurgii i obogashcheniya AN KazSSR (for Ponomarev).  
(Hydrometallurgy) (Cementation (Metallurgy))

KVYATKOVSKIY, A.N.; YESIM, O.A.; ABDYEV, M.A.; KHAN, O.A.

Thermodynamics of the direct and indirect reduction of  
melted lead oxides. Vest. AN Kazakh. SSR 16 no.2:19-25  
(MIRA 13:6)  
F '60.  
(Reduction, Electrolytic) (Lead oxides)

KHAN, O.A.; KABANOVA, L.M.

Cadmium electrolysis with a high density current in baths  
with rotating cathodes. TSvet.met. 33 no.1:31-38 Ja '60.  
(MIPA 13:5)

(Cadmium--Electrometallurgy)

KHAN, O.A.

Cathodic polarization of lead and the structure of lead deposits.  
Zhur. prikl. khim. 33 no16:1347-1354 Je '60. (MIRA 13:8)

1. Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy  
institut AN Kazakhskoy SSR.  
(Lead) (Polarisation (Electricity))

S/080/60/033/009/018/021  
AC03/A001

AUTHORS: Khan, O.A., Saltovskaya, L.A.

TITLE: On the Cathode Behavior of Tellurium in the Electrolysis of  
Alkali Solutions

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 9, pp. 2143-2145

TEXT: The electrolytic method of tellurium production is used on a broad scale, but the behavior of tellurium in the alkali electrolysis is only little studied. This behavior was investigated here by plotting the polarization curves obtained by means of a ПИТВ-1 (PPTV-1) potentiometer. For preparing the alkaline tellurium solution commercial tellurium was used which was preliminarily purified from admixtures. The measurements were carried out in solutions containing tellurium from 0.026 to 1.1 n and a constant amount of NaOH (160 g/l) at temperatures of 20, 40 and 60°C. The depositon of tellurium on the cathode increases with an increase in the tellurium concentration in the electrolyte. At a high tellurium concentration in the solution a powder-like deposit is obtained on the cathode. A temperature increase raises the rate of tellurium deposition on the cathode and the value of the limiting current density

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S/080/60/033/009/018/021  
AC03/A001

On the Cathode Behavior of Tellurium in the Electrolysis of Alkali Solutions

is also increased. At a tellurium concentration of 0.8 n the limiting current density on the cathode increases from 659 amp/m<sup>2</sup> at 20°C to 1,000 amp/m<sup>2</sup> at 60°. The inhibition of the discharge process of tellurium ions on the cathode has been found to be of mainly diffusion nature. There are 3 figures, 1 table and 6 references: 5 Soviet, 1 English.

ASSOCIATION: Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy institut AN KazSSR (Altaysk Mining-Metallurgical Scientific Research Institute AS KazSSR)

SUBMITTED: January 19, 1960

Card 2/2

KVYATKOVSKIY, A.N.; YESIN, O.A.; ABDEYEV, M.A.; KHAN, O.A.

Possibility of reducing lead losses in slags by electrochemical methods. Izv. AN SSSR. Otd. tekhn. nauk. Met. i topl. no.2:43-48 Mr - Ap '61. (MIRA 14:4)  
(Lead--Electrometallurgy)

KABANOVA, L.M.; KHAN, O.A.

Cadmium cementation from concentrated sulfate solutions. Trudy  
Alt, GMNII AN Kazakh, SSR 11:34-47 '61. (MIRA 14:8)  
(Cementation (Metallurgy)) (Cadmium--Metallurgy)

KHAN, O.A.; AEDEYEV, M.A.; BUTENKO, N.S.; BATYUKOVA, G.V.

Lead cementation from a lead chloride melt. Trudy Alt.GMNII  
AN Kazakh.SSR 11:56-59 '61. (MIRA 14:8)  
(Cementation (Metallurgy)) (Lead--Metallurgy)

KHAN, O.A.; DUKHANKINA, L.S.

Electrolysis of zinc-iron sulfate solutions. Trudy Alt.GMNII  
AN Kazakh.SSR 11:65-75 '61. (MIRA 14:8)  
(Zinc-Electrometallurgy)

S/136/61/000/012/002/006  
E021/E335

AUTHORS: Khan, O.A. and Sosnovskiy, G.N.  
TITLE: An electrolytic method of depositing cadmium from sulphate solutions in the form of a non-compact precipitate

PERIODICAL: Tsvetnyye metally, no. 12, 1961, 35 - 38

TEXT: The electrolytic production of cadmium in the form of a non-compact precipitate enables a higher current density to be used and increases the rate of precipitation. The true current density is lower than the calculated current. The method developed on laboratory scale was tested precipitate. The porous nature of the cathodically-deposited density because of production conditions at the Leninogorsk Polymetallic Combine, in which V.V. Ryzhov and P.V. Levchenko participated, as well as M.I. Sabyanin, Z.V. Moiseyenko and K.Ye. Nursultanov of AGMNII AS KazSSR. A water-cooled bath of 100 litres capacity was used. Experiments were carried out at 20, 30 and 40 °C and

Card 1/3

An electrolytic method ....

S/136/61/000/012/002/006  
E021/E335

✓

cathodic current densities of 500, 750 and 100 A/m<sup>2</sup>. The total working surface of the cathode was 0.91 m<sup>2</sup>. The usual electrolyte was used and it contained 128.8 and 27.7 g/litre of Cd and Zn, respectively, and 6.0, 10, 0.5, 0.4, 25, 32.5, 54.0, 15 and 10.0 mg/litre of Cu, Pb, As, Sb, Fe, Ni, Mn, Tl and Co, respectively. The obtained deposit was washed with water, briquetted in a press and analyzed for impurities after remelting. The efficiency of the production calculated from the current used was 95-97% at 20-25°C and 81-90% at 30-35°C, at all current densities. The rate of deposition was greater than the normal rate by a factor of 10 - 15. Anodes of the usual Pb - 1% Ag alloy and Pb - 8% Sb alloy were tried. The Pb - 8% Sb alloy suffered from corrosion which resulted in contamination of the cadmium deposit by particles of anode slime. This contamination could be reduced by the use of a hood. Observations showed that at the beginning of electrolysis a dense thin film of deposit was formed.

Card 2/3

KHAN, O.A.; SOLOV'YEVA, V.I.

Anodic behavior of lead some other metals and alloys in a  
lead nitrate solution. Zhur.prikl.khim. 34 no.8:1793-1799  
(MIRA 14:8)  
Ag '61.

1. Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy  
institut AN KazSSR.  
(Lead nitrate)

SELOV'YEVA, V.I.; KHAN, O.A.

Electrolytic refinement of bismuthic lead in the nitric acid  
electrolyte. Zhur.prikl.khim. 35 no.2:310-317 F :62.  
(MIRA 15:2)

(Lead-bismuth alloys) (Bismuth- Electrometallurgy)

KHAN, O.A.; SOSNOVSKIY, G.N.

Effect of zinc ions on the structure of the cathodic cadmium  
precipitate and the electrolysis indices. TSvet. met. 35  
no.4:24-28 Ap '62. (MIRA 15:4)  
(Cadmium--Electrometallurgy) (Ions)

S/828/62/000/000/007/017  
E039/E420

AUTHORS: Giganov, G.P., Ponomarev, V.D., Khan, O.A.

TITLE: On the conditions for the extraction and separation of tantalum and niobium and the formation of complexes

SOURCE: Razdeleniye blizkikh po svoystvam redkikh metallov. Mezhvuz. konfer. po metodam razdel. blizkikh po svoyst. red. metallov. Moscow, Metallurgizdat, 1962, 79-97

TEXT: As no previous work on this part of the subject has been published the authors present results of an investigation on the formation of complexes with HF, H<sub>2</sub>SO<sub>4</sub>, Ta and Nb and on the conditions for extraction of the separate metals. The experiments are carried out at 20°C in polyethylene vessels and the phase separation accomplished in a graduated polyethylene funnel. The duration of mixing is 10 minutes and the time of separation ~ 1 hour. The initial ratio of phases is 1:1. Methods of analysis are discussed in detail and the influence of various parameters on the extraction of Ta and Nb are examined. In particular the dependence of the distribution coefficient K<sub>p</sub> and the specific electrical conductivity of the organic phase on Card 1/2

On the conditions for ...

S/828/62/000/000/007/017  
E039/E420

the concentration of HF, the concentration of the metals in solution and the concentration of tributylphosphate (TBP) is examined. It is determined that in the presence of 3M  $H_2SO_4$  in an aqueous solution of HF the limiting concentration of Nb and/or Ta in undiluted TBP is 1 M or 133 g/litre of  $Nb_2O_5$  and 225 g/litre of  $Ta_2O_5$ . Niobium is extracted from HF solution (with or without  $H_2SO_4$ ) by TBP in the form of  $HNbF_6 \cdot 3 TBP$ . From a saturated solution of Nb containing a solid phase Nb is transferred to the ether phase in the form of oxyfluoride complexes  $H_2NbO_5 \cdot 3 TBP$  and  $HNbOF_4 \cdot 3 TBP$ . At low concentrations of HF in aqueous solution Ta is extracted as  $HTaF_6 \cdot 3 TBP$  and at high concentrations of HF and from solutions containing  $H_2SO_4$  the Ta is transferred in the form  $H_2TaF_7 \cdot 3 TBP$ . The optimum conditions for separation of Nb and Ta by extraction with TBP from HF- $H_2SO_4$  solutions are studied. If in the initial solution the ratio  $Ta_2O_5:Nb_2O_5 = 2$  or more, the largest separation coefficient is obtained by extraction from a weak acid solution 1 M HF - 0.5 M  $H_2SO_4$ . When the ratio of  $Nb_2O_5:Ta_2O_5 = 2$  or more in the initial solution, it is necessary to extract from a solution with excess acidity 6 M HF - 3 M  $H_2SO_4$ . There are 9 figures and 5 tables.

✓  
Card 2/2

~~████████~~ O.A.; SOSNOVSKIY, G.N.; RYZHOVA, V.V.; TARASOVA, R.S.

Use of activated coal for the purification of cadmium electrolyte from impurities. TSvet.met. 34 no.9:51-56 S '61. (MIRA 14:10)

1. Altayskiy gorno-metallurgicheskiy institut AN KazSSR (for Khan, Sosnovskiy). 2. Leninogorskiy polimetallichесkiy kombinat (for Ryzhova, Tarasova).

(Cadmium—Electrometallurgy)

ABDEYEV, Masgut Abdurakhmanovich; SMIRNOV, V.I., akademik, otd. red.;  
KUBYSHEV, N.N., retsentent; KHAN, O.A., retsentent;  
KHUDYAKOV, A.G., tekhn. red.

[Complex metal ore mattes and their conversion] Polimetallische-  
skie shtainy i ikh konvertirovanie. Alma-Ata, Izd-vo Akad. nauk  
Kazakhskoi SSR, 1962. 227 p. (MIRA 16:1)

1. Akademiya nauk Kazakhskoy SSR (for Smirnov).  
(Nonferrous metals--Metallurgy)

KHAN, O.A.

Thermocementation method of coating aluminum with lead alloys  
containing a small amount of silver. TSvet. met. 35 no.9;  
41-43 S '62. (MIRA 16:1)  
(Lead plating) (Cementation (Metallurgy))

S/136/63/000/002/002/006  
E021/E483

AUTHORS: Khan, O.A., Sosnovskiy, G.N.

TITLE: The performance of lead anodes and decrease in the lead content in the cathode deposit during the electrolysis of cadmium

PERIODICAL: Tsvetnyye metally, no.2, 1963, 32-37

TEXT: The performance of various insoluble lead-based anodes during the electrolysis of cadmium was studied. The relation between the degree of contamination of the cathode deposit and the quantity of lead-containing products passing into the electrolyte from the disintegration of the anodes was examined. It was established that during polarization of the anodes a considerable quantity of lead in the form of solid particles of anode product passed into the electrolyte. The degree of contamination of cathode cadmium by lead could be considerably reduced by the addition of manganese (2 to 4 g/litre) to the electrolyte. Further improvement could be ensured by using anode filter bags. The effectiveness of these measures is demonstrated by experimental data reproduced in Table 4. There are 4 figures and 4 tables.

Card 1/2

S/136/63/000/002/002/006  
E021/E483

The performance of lead ...

Table 4. Dependence of the lead content (%) in cathode cadmium on the concentration of manganese ions in the electrolyte. Experimental conditions: current density - 500 A/m<sup>2</sup>, temperature - 20°C, duration - 6 hours.

Содержание марганца в электролите, %/д	Свинцовые		Свинцово-сурьмяные		Свинцово-серебряные	
	без диафрагмы	с диафрагмой	без диафрагмы	с диафрагмой	без диафрагмы	с диафрагмой
0	0,130	0,210	0,110	0,190	0,026	0,012
1,0	0,046	0,015	0,100	0,016	0,027	0,013
3,0	0,041	0,018	0,055	0,016	0,020	0,013
5,0	0,038	0,016	0,040	0,017	0,020	0,014
10,0	0,039	0,014	0,035	0,017	0,023	0,012

1 - Manganese content in the electrolyte, g/litre,

2 - Pb anodes, 3 - Pb - 8% Sb anodes, 4 - Pb - 1% Ag anodes,

5 - without filter-bags, 6 - with filter-bags

Card 2/2

KHAN, O.A.

New high temperature cementation method of coating aluminum with a  
layer of lead-silver alloy. Trudy Alt. GMNII AN Kazakh. SSR 14:14-  
22 '63. (MIRA 16:9)  
(Cementation (Metallurgy)) (Nonferrous metals--Electrometallurgy)

KHAN, O.A.; SOSNOVSKIY, G.N.

Dispersed composition of solid products from the disintegration of lead anodes and the mechanism of their entry into the cathodic cadmium deposit. Trudy Alt. GMNII AN Kazakh. SSR 14:30-38 '63.

(MIRA 16:9)

(Cadmium—Electrometallurgy)

KHAN, O.A.; SOSNOVSKIY, G.N.

Behavior of lead anodes and reduction of the lead content of  
cathodic deposits in cadmium electrolysis. TSvet.met. 36  
no.2:32-37 F '63. (MIRA 16:2)  
(Cadmium--Electrometallurgy) (Lead)

GIGANOV, G.P.; PONOMAREV, V.D.; KHAN, O.A.

Conditions for the extractive separation and composition of tantalum and niobium complex ores. Trudy Alt. GMNII AN Kazakh. SSR 14: 39-51 '63. (MIRA 16:9)  
(Tantalum—Metallurgy) (Niobium—Metallurgy)

SOLOV'YEVA, V.I.; KHAN, O.A.

Investigating the process of the electrolytic refining of lead in a  
nitric acid electrolyte. Trudy Alt. GMNII AN Kazakh. SSR 14:75-85  
'63. (MIRA 16:9)

(Lead--Electrometallurgy) (Electrolytes)

SOSNOVSKIY, G.N.; KHAN, O.A.

Effect of impurities and temperature of the electrolyte and indices of the cadmium and vanadium electrolysis process in baths with stationary cathodes. Trudy Alt. GMNII AN Kazakh. SSR 14:90-99 '63.

(MIRA 16:9)

(Cadmium—Electrometallurgy) (Vanadium—Electrometallurgy)  
(Electrolytes—Analysis)

Nature of the adherence of aluminum to a layer of a protective Pb-Ag coating. Zhur. prikl. khim. 36 no.9:2075-2079 D '63.

(MIRA 17:1)

KHAN, O.A.; PIKOV, N.Kh.

Cathodic polarization during the electrodeposition of cadmium from sulfuric acid solutions containing zinc ions. Zhur. prikl. khim. 37 no.2:352-361 F '64. (MIRA 17:9)

1. Altayeskiy gornometallurgicheskiy nauchno-issledovatel'skiy institut AN Kazakhskoy SSR.

KHAN, O.A.; SOSNOVSKIY, G.N.

Cataphoretic migration of  $PbO_2$  particles in a sulfuric acid  
solution of cadmium. Zhur. prikl. khim. 37 no. 4:890-892  
Ap '64. (MIRA 17:5)

1. Altayskiy gornometallurgicheskiy nauchno-issledovatel'skiy  
institut AN Kazakhskoy SSR.

KHAN, O.A.; PIKOV, N.Kh.; SOGNOVSKIY, G.N.

Electrolysis of aluminum. TSvet. met. 37 no.6:82-89 Je '62.  
(MIR 17:9)

KHAN, O.A.; PIKOV, N.Kh.

Effect of hydrogen ions on the cathodic polarization in the electro-deposition of cadmium. Zhur. prikl. khim. 38 no.7:1563-1568 J1 '65.  
(MIRA 18:7)

POPIY, M.P., inzh.; KURNIKOV, D.A., tekhnik; KLYKOV, I.S., tekhnik;  
ANFINOGENOV, I.F., tekhnik; SEDOV, B.P., tekhnik;  
KHAN, R.A., tekhnik

Profiling vertical mine shafts from a permanent base.  
Shakht. stroi. 7 no.8:25-28 Ag '63. (MIRA 16:11)

1. Leninogorskoye shakhtostroyupravleniye.

ACCESSION NR: AT4042299

8/0000/63/003/000/0209/0228

AUTHOR: Aliyevsky, B. L.; Bertinov, A. I.; Kalugin, V. N.; Khan, V. Kh.

TITLE: Unipolar DC generators for powering conduction pumps

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy\* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady\* soveshchaniya, v. 3. Riga, Izd-vo AN LatSSR, 1963, 209-228

TOPIC TAGS: pump, conduction pump, generator, contact, armature reaction, power supply, direct current generator, unipolar generator, current collector

ABSTRACT: The authors discuss the basic requirements which must be met by power supplies for conduction pumps (reliability, long service life, efficiency, relative simplicity of operation, etc.) and show that unipolar generators satisfactorily fulfill these requirements. The operational principle of these generators (i.e., the rotation of the cylinder or disk in a magnetic field of constant polarity) is briefly described, with the pertinent mathematical expressions. A definition is propounded in the following terms: A unipolar (homopolar, acyclic) direct-current generator is the name given to a collector-loss generator, in which the direction of the electromotive force, induced in the armature

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Card

ACCESSION NR: AT4042299

conductors, remains constant with respect to these conductors. In a separate section of the article, the basic structural design versions (that is, the cylindrical and the disk types) are considered and their differences are analyzed. An attempt is made at a classification of unipolar DC generators. The authors also take up the problem of the heavy-current movable contact and liquid-metal current collectors. Attention is given to the different kinds of solid brush collectors and also to the recently proposed ionized gas contact based on metal vapors. The use of a mercury- or alkali metal-based liquid-metal current-collecting apparatus in unipolar generators for pump powering purposes is discussed in some detail. The fundamental equations for "no-load" and working mode conditions are derived and formulas are presented for calculating the electromagnetic power and loads of these generators. In a further section of the paper, an analysis is made of the economically advantageous ratios between the current, voltage and power of unipolar generators, and a comparison of the various types is essayed from this point of view. The authors note that since these generators are designed to operate under a heavy working current, problems relating to the theory and calculation of the armature reaction in these devices take on a particular importance.

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APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000721720017-4"

PINCHUK, G.I.; KHAN, Ya.M.

Double contrasting in bladder cancer. Vop. onk, 9 no.11:  
107-110 '63. (MIRA 18:2)

1. Iz Rostovskogo gosudarstvennogo nauchno-issledovatel'skogo instituta rentgenologii, radiologii i onkologii Ministerstva zdravookhraneniya RSFSR (dir.- kand. med. nauk A.K. Pankov, zav. urologicheskim otdelom - dotsent G.I. Pinchuk, zas. rengenologicheskim otdelom - dotsent Ya.M. Khan). Adres avtora: Rostov-na-Donu, 14-ya liniya, d.63. Gosudarstvennyy nauchno-issledovatel'skiy institut rentgenologii, radiologii i onkologii.

KHANADEYEV, A.Ye.

Some characteristics of air moisture and cloudiness in the central  
Tien Shan. Trudy Sred.-Az.nauch.-issl.gidrometeor.inst. no. 8:  
50-58 '63. (MIRA 17:5)

RYAZANTSEVA, Z.A.; KHANADEYEV, A.Ye.

Temperature regime of the eastern part of the central Tien  
Shan. Izv. AN Kir. SSR. Ser. est. i tekhn. nauk 2 no.10:61-  
71 '60. (MIRA 17:3)

KHANADEYEV, A.Ye.

Monthly temperature anomalies in highland regions of the central  
Tien Shan. Trudy Sred.-Az.nauch.-issl.gidrometeor.inst. no.9:  
83-86 '63. (MIRA 17:4)

TURKI, A.R.; YUSSEF, Yu.L.; SALEM, T.M.; FARAG, M.S.; KHANAFI, Z.

Physical properties of yellow mercuric and red mercurous oxides.  
Dokl. AN SSSR 142 no.5:1095-1097 F '62. (MIRA 15:2)

1. Yegipetskiy natsional'nyy issledovatel'skiy tsentr, Kair,  
Ob"yedinennaya Arabskaya Respublika. 2. Inostranny chlen  
AN SSSR (for Turki).

(Mercury oxide)

KHANAKYAN, N., dozatorzhchik

New production of the Erevan Mixed Feed Plant. Prom.Arm. 4  
no.6:43-44 Je '61. (MIRA 14:8)

1. Yerevanskiy kombikormovoy zavod.  
(Erevan--Feeds)

GURBANALIYEV, I.G., kand. med. nauk; KHANALIYEV, N.M., aspirant

Transthoracic removal of a foreign body from the esophagus.  
Azerb. med. zhur. 42 no. 7:76-78 Jl '65 (MIRA 19:1)

1. Iz otseja grudnoy khirurgii (nauchnyy rukovoditel' - chlen-korrespondent AN Azerbaydzhanskoy SSR prof. F.A. Kfendiyev [deceased]) Azerbaydzhanskogo instituta eksperimental'noy i klinicheskoy meditsiny AMN SSSR.

TAIROV, A.N., prof.; KHANALIYEV, N.M.

Degree of effectiveness of the Lorin-Epstein novocaine block  
in acute renal colic; second report. Azerb.med.zhur. no.2:  
49-55 F '62. (MIRA 16:4)  
(KIDNEYS—DISEASES) (NOVOCAIN)

TAIROV, A.N., prof.; KHANALIYEV, N.M., ordinator

Effectiveness of blocking the spermatic cord in males and the  
ligamentum teres uteri in females in renal colic. Preliminary  
report. Azerb. med. zhur. no. 5:24-27 My '60. (MIRA 13:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki pediatricheskogo  
i sanitarno-gigiyenicheskogo fakul'tetov (zav. - zasl. deyatel'  
nauki, prof. F.A. Efendiyev) Azerbaydzhanskogo gosudarstvennogo  
meditsinskogo instituta im. Narimanova- (direktor - zasl.  
deyatel' nauki, prof. B.A. Eyvazov.  
(CALCULI, URINARY) (NOVOCAIN)

L 02330-67 EWT(1)/T - RO/JK

ACC NR: AR6022385 (N) SOURCE CODE: UR/0397/65/000/024/0052/0052

AUTHOR: Bulatov, P. K.; Zlydnikov, D. M.; Fadoseyev, G. B.; 26  
Khan-Fimina, V. A.; Sarayeva, A. N. 2.5  
B

TITLE: Treatment of patients with various inflammatory diseases of the respiratory organs with garlic phytoncides

SOURCE: Ref. zh. Farmakologiya. Toksikologiya, Abs. 24.54.401

REF SOURCE: Sb. Morfol., fiziol. i patol. organov, dykhaniya. L. 1965, 25-28

TOPIC TAGS: respiratory system disease, microorganism contamination, pharmacognosy, therapeutics, phytoncide

ABSTRACT: The effect of volatile fractions and tissue juice of garlic on microorganisms (white, golden and lemon-yellow staphylococcus, hemolytic streptococcus, secondary type of pneumococcus, enteric bacteria, proteus, blue pus rods, and yeastlike fungi of the Candida type) frequently found in the sputum in lung diseases was investigated in vitro. An emulsion 0.1 ml of a 24 hr culture (500 million microbial bodies in 1 ml of physiological solution) was placed on the surface of a solid nutritive medium in 3 cups. 1 g of ground garlic was introduced

Card 1/2

UDC: 615.32

LYUBIMOVA, G.N., KHANMAGOMEDOV, S.O.

Farm Buildings - Daghestan

Farm buildings of Tabasaran. Krat. soob. Inst. etn. AN SSSR 14, 1952.

Monthly List of Russian Accessions. Library of Congress, September 1952. UNCLASSIFIED.

*KHAN-MAGOMEDOV, S. O.*

KHAN-MAGOMEDOV, S. O.

"Lezghin People's Dwellings." Cand Arch Sci, Inst of the  
History and Theory of Architecture, Acad of Architecture USSR,  
Moscow, 1955, (KL, No 8, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical  
Dissertations Defended at USSR Higher Educational Institu-  
tions (14)

KHAN-MAGOMETOV, D.

Work on medical history in the republic. Zdrav.Turk. 3  
no.2:47 Mr-Apr '59. (MIRA 12:8)

1. Chlen pravleniya Vsesoyuznogo nauchnogo istoriko-meditsinskogo obshchestva.  
(TURKMENISTAN--MEDICINE)

KHAN-MAGOMETOV, D., zasluzhennyi vrach Turkmeneskoy SSR

V.M.Lomonosov and Russian medicine. Zdrav. Turk. 5 no.6:32-33 N-D  
'61. (MIRA 15:2)

1. Predsedatel' Turkmeneskogo nauchnogo obshchestva istorikov meditsiny.  
(LOMONOSOV, MIKHAIL VASILEVICH, 1711-1765)

KHAN-MAGOMETOV, D.M.

N.A. Semashko. Zdrav. Turk. 3 no.6:39-40 N-D '59.  
(SEMASHKO, NIKOLAI ALEKSANDROVICH, 1874-1949) (MIRA 13:5)

KHAN\_MAGOMETOV, D.M., zasluzhennyj vrach Turkmenskoy SSR

Turkmen Medical History Society. Sov. zdrav. 20 no.9:92-93 '61.

1. Predsedatel' Turkmenetskogo Respublikanskogo nauchnogo obshchestva  
istorikov meditsiny. (MIRA 14:12)

(TURKMENISTAN. MEDICAL SOCIETIES)

*SII*  
KHAN-MAGOMETOVA, I.D.

Ultraviolet fluorescence of pyridocine, indole and some of their derivatives. [with summary in English]. Biofizika 3 no.5:558-561 '58  
(MIRA 11:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.  
(VITAMIN B6, determination,

ultraviolet fluorescence (Rus))  
(INDOLE, determination,

same (Rus))

(ULTRAVIOLET RAYS,

ultraviolet fluorescence of vitamin B6 & indole (Rus))

DERKACHEVA, L.D.; ZHEVANDROV, N.D.; KHAN-MAGOMETOVA, Sh.D.

A fluorescence method for determining small quantities of bacteria  
[with summary in English]. Biofizika 4 no.1:117-119 Ja '59.

(MIRA 12:1)

1. Institut biologicheskoy fiziki AN SSSR, Moskva i Fizicheskiy  
institut im. P.N. Lebedeva AN SSSR, Moskva.  
(BACTERIA,

determ. of small quantities by luminescent  
method (Rus))

(LUMINESCENCE,  
luminescent method of determ. of small quantities  
of bact. (Rus))

KHAN MAGOMETOVA, Sh.D.; GUTKINA, A.V.; MEYSEL', M.N.; AGROSKIN, L.S.;  
KOROLEV, N.V.

Ultraviolet fluorescence of some animal organs and its change after  
irradiation. Biofizika 5 no. 4:446-449 '60. (MIRA 13:12)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.  
(ULTRAVIOLET RAYS—PHYSIOLOGICAL EFFECT)  
(X RAYS—PHYSIOLOGICAL EFFECT) (FLUORESCENCE)

81281

S/048/60/024/05/08/009  
B006/B017

24.3500

AUTHORS: Khan-Magometova, Sh. D., Zhevandrov, N. D., Gribkov, V. I.

TITLE: The Effect of Beta Irradiation <sup>M</sup> on the Photoluminescence <sup>H</sup> of  
Molecular Crystals

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 5, pp. 561-566

TEXT: The present article is a reproduction of a lecture delivered at the Eighth Conference on Luminescence (Minsk, October 19-24, 1959). The effect of intensity reduction of the photoluminescence of molecular crystals has already been clarified and investigated. Since one author could not observe this effect in beta irradiation of anthracene, while another author did, the authors of the present paper again carried out investigations on this subject and reported on their results. Crystals of pure anthracene and anthracene + naphthacene with different naphthacene concentrations were used for this purpose. The radioisotope

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Card 1/4

81281

The Effect of Beta Irradiation on the  
Photoluminescence of Molecular Crystals

S/048/60/024/05/08/009  
B006/B017

$\text{Sr}^{90} \rightarrow \text{Y}^{90}$  (25 mC and 100 mC, respectively, mean  $\beta$ -energy 0.9 Mev, maximum  $\beta$ -energy 2.2 Mev) and  $\text{H}^3$  (0.37 and 3.4 curies, mean energy 5.5 kev, maximum 18 kev) with a maximum irradiation dose of  $2.10^6$  rad ( $\text{Sr}^{90}$ ) and  $3.5 \cdot 10^{10}$  rad ( $\text{H}^3$ ) served as a beta source. Several series were investigated of all samples, naphthene concentration was kept between  $10^{-5}$  and  $5 \cdot 10^{-3}$  g/g, photoluminescence was excited with  $\lambda = 365 \text{ m}\mu$ , and its spectrum was measured before and after beta irradiation. Irradiation lasted longer than 3-6 days. Single crystals, blocks containing single crystals, and pulverized samples were measured. Results are illustrated in diagrams. Irradiation of pure anthracene led to an appreciable reduction of the luminescence spectrum ( $I'_1/I'_0 = 16\%$ ). In a mixed crystal with  $10^{-4}$  g/g naphthacene  $I'_1/I'_0 = 71\%$ , at a naphthacene content of  $5 \cdot 10^{-3}$  g/g the ratio attains 95%, i.e., luminescence is practically not reduced. Similar results were obtained by irradiation with a tritium source. Further investigations showed that this reduction is an irreversible

Card 2/4

4

81281

The Effect of Beta Irradiation on the  
Photoluminescence of Molecular Crystals

S/048/60/024/05/08/009  
B006/B017

process and the result of a yield reduction. The fact that this effect is prevented by the presence of naphthacene impurities (which are often contained in anthracene) explains the different results of the investigations mentioned at the beginning. Two hypotheses are discussed for the purpose of explaining the affection of luminescence by irradiation: 1) formation of inactively absorbing non-luminescent molecules, and 2) formation of extinction centers capturing the excitons. Finally,

experiments on irradiation with the strong  $H^3$  source and the resulting intensity reductions in luminescence of the samples are described (Fig. 2 shows the luminescence spectra before and after the irradiation); also the spectral dependence of luminescence polarization before and after irradiation is investigated (Fig. 3) as well as the dependence of intensity reduction on the radiation dose (Fig. 4: with increasing dose  $I_1/I_0$  shows an exponential drop). As may be seen from Fig. 3, irradiation has no influence on the shape of the spectrum, and only the intensity is reduced. In conclusion, the authors thank G. B. Radziyevskiy for his assistance. M. D. Galanin, Z. A. Chizhikova, I. Ya. Kucherov, and

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S/048/60/024/006/023/030/XX  
B013/B067

AUTHORS: Gribkov, V. I., Zhevandrov, N. D., and Khan-Magometova, Sh. D.

TITLE: Polarization Characteristics of the Luminescence <sup>21</sup> of  
Molecular Crystals in Various Spectral Regions

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 6, pp. 740-744 V

TEXT: This paper is a continuation of the studies of free and localized excitons in the luminescence of molecular crystals which were begun in Refs. 1 and 2. The spectropolarimetric, photoelectric apparatus described in Ref. 2 was used for the investigations. First, the authors measured the spectral dependence of polarization of the luminescence excited at  $\lambda = 365 \text{ m}\mu$  in stilbene crystals which were cut out in the direction of various crystallographic planes (Fig. 1). Furthermore, the authors measured the dichroism spectra of the stilbene crystal plates investigated (Fig. 2). On the basis of the investigations it may be assumed that the strong change in polarization observed on the short-wave edge of the spectrum is not connected with the admixture of the exciting light.

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Polarization Characteristics of the Luminescence of Molecular Crystals in Various Spectral Regions

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Furthermore, the dichroism of reabsorption of luminescence must be taken into account. For the correction of the change in the actual polarization of luminescence due to the dichroism of reabsorption, well-known formulas derived by Förster (Ref. 3) may be used which have already been used for molecular single crystals. The spectral dependence of polarization on the edge of the luminescence spectrum is given in Fig. 3, taking account of the corresponding corrections. The strong change in polarization in spite of the correction indicates that the luminescence of the stilbene crystal shows the emission of free excitons. A study of the photo- and  $\beta$ -excited (with  $\text{Sr}^{90}$ ) polarization of luminescence has shown that the mechanism of luminescence does not depend on the nature of excitation and that the polarization of luminescence depends mainly on the properties of the crystal. The authors also studied the spectral dependence of polarization in compound anthracene and naphthacene crystals. The results obtained for one of the naphthacene concentrations are given in Fig. 4. The change in polarization in the spectral region of anthracene is the same as that found for pure anthracene. In the spectral region of naphthacene, no

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Polarization Characteristics of the Luminescence of Molecular Crystals in Various Spectral Regions

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strong change may be observed in polarization. It may be assumed that the orientation of the naphthacene molecules in the lattice differs from that of the anthracene molecules. Fig. 5 gives the spectral dependence of the luminescence polarization of benzyl crystals at room temperature. Polarization increases in the direction of the short-wave edge, and attains 20% at the end of the spectrum. To determine a possible ellipticity, the polarization was analyzed by the ordinary method and by means of  $\lambda/4$  plates (Ref. 9). Elliptical polarization could be observed neither in summational luminescence of the benzyl crystal nor in the individual sections of the spectrum, neither at room temperature nor at the temperature of liquid nitrogen. The same negative result was obtained in analyzing the summational luminescence of glycerin solutions of optically active substances - tryptophane and riboflavin. Hence, the elliptical polarization of luminescence of an optically active substance as described in Ref. 7 remains a single case. The present paper was read at the Eighth Conference on Luminescence (Molecular Luminescence and Luminescence Analysis) which took place in Minsk from October 19 to 24, 1959. There are 4 figures and 9 references: 5 Soviet, 3 German, and 1 Indian.

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GRIBKOV, V.I.; ZHEVANDROV, N.D.; KHAN-MAGOMETOVA, Sh.D.

Luminescence polarization of molecular crystals under  $\beta$ -ray excitation. Opt. i spektr. 10 no.4:549-551 Ap '61. (MIRA 14:3)  
(Luminescence) (Beta rays)  
(Crystals—Spectra)

243500 (1137,1138)

32049  
S/051/61/011/005/009/018  
E202/E192

AUTHORS: Zhevandrov, N.D., Gribkov, V.I., and  
Khan-Magometova, N.D.

TITLE: The influence of excitation light birefringence on  
the polarisation of the luminescence of the molecular  
crystals

PERIODICAL: Optika i spektroskopiya, v.11, no.5, 1961, 629-635

TEXT: The authors have shown that in molecular crystals  
luminescence polarisation does not depend on the excited light  
polarisation. This independence is completely general, and  
exists in the presence or absence of other complicating factors  
such as double refraction, dichroism or optical activity. This  
behaviour is explained by the migration of the energy of  
excitation in the crystals. In the case of double refraction,  
the electrical vector during its rotation will in turn coincide  
with the oscillators of various orientation causing a uniform  
excitation of the latter independent of the initial position of  
the exciting electrical vector. Stilbene crystal was selected  
for the spectro-polarimetric experimentation, which confirmed

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S/051/52/013/001/007/019  
E039/E420

AUTHORS: Zhevandrov, N.D., Gribkov, V.I., Khan-Magometova, Sh.D.  
TITLE: The migration of energy between impurity molecules in  
molecular crystals

PERIODICAL: Optika i spektroskopiya, v.13, no.1, 1962, 96-99

TEXT: It has previously been shown that the polarization of fluorescence of molecular crystals is independent of the position of the electric vector of the exciting light. This is made use of in the present paper to investigate the migration of energy between impurity molecules where the distances at small concentrations are many times the lattice constant. Measurements of polarization were made with a spectro-polarimetric photoelectric apparatus described in a previous paper. It is shown that for the largest investigated concentration of naphthalene in anthracene ( $10^{-3}$  g/g eq.) the degree of polarization of the luminescence does not depend on the position of the electric vector in the exciting light. From this it is concluded that migration of energy of excitation proceeds between

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ZHEVANDROV, N.D.; GRIBKOV, V.I.; KHAN-MAGOMETOVA, Sh.D.

Energy migration between impurity molecules in molecular crystals.  
Opt.i spektr. 13 no.1,96-99 Jl '62. (MIRA 15:7)  
(Crystals) (Luminescence)

SHAN\_MAGOMTOVA, Sh.R.; KABZIYEVSKIY, G.B.

Effect of the  $\beta$ -radiation of tritium on the luminescence of  
and energy transfer processes in anthracene crystals. Vys. i  
spektr. 16 no.5:842-850 My '64. (VIRA 17:9)

• Kh. Ibr., S. S.; KHANAAZILAV, L. T.; DZHORDZHE, E. T.; SHAVIVALOV, L. Ya.

"The Investigation of  $\mu\tau$  Spectra of  $\text{Ne}^{19}$  and  $\text{Ge}^{67}$  and also the Gamma Radiation  
of  $\text{Au}^{197m}$ ."

Report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22  
Aug 64.

• V. TIKH, MGU  
• Res Inst Nuclear Physics, Moscow State Univ.

KHANADEYEV, A.Ye.

Wind regime in the eastern part of the central Tien Shan.  
Trudy Sred.-Az- nauch.-issl. gidrometeor. inst. no.4:58-71  
'61. (MIRA 15:1)  
(Tien Shan—Winds)

KHANADEYEV, A.Ye.

Precipitation in the eastern part of the central Tien Shan.  
Trudy Sred.-Az. nauch.-issl. gidrometeor. inst. no.4:72-76  
'61. (MIRA 15:1)  
(Tien Shan—Precipitation (Meteorology))

ACCESSION NR: AT4016524

S/2648/63/000/009/0083/0086

AUTHOR: Khanadeyev, A. Ye.

TITLE: Monthly temperature anomalies in high-mountain regions of the central Tien Shan

SOURCE: Tashkent. Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy\*, no. 9(24), 1963. Voprosy\* dolgosrochny\*kh prognozov pogody\* (Problems of long term weather prediction), 83-86

TOPIC TAGS: meteorology, weather forecasting, long-range weather forecasting, climate, climatology, air temperature, air temperature anomaly, atmospheric circulation

ABSTRACT: Variations of mean monthly air temperature in the central Tien Shan region have been analyzed by a study of monthly temperature anomalies. The objective was to accumulate data useful in long-range forecasting, but the application of monthly temperature anomalies to forecasting is not discussed. Data for six stations with series of observations with a duration of 18 to 61 years were reduced to a 74-year series for Frunze station (only for January, April, July and October). The work was done by climatologists of the Geography Division, Academy of Sciences Kirgiz SSR, under the direction of

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ACCESSION NR: AT4016524

Z. A. Ryzantseva. Correlation coefficients were computed using the formula

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2} \sqrt{\sum (y_i - \bar{y})^2}} = \frac{\sum \Delta x_i \Delta y_i}{\sqrt{\sum (\Delta x)^2} \sqrt{\sum (\Delta y)^2}},$$

where  $x_i$  is the mean monthly and  $\bar{x}$  is the mean monthly long-term temperature for Frunze;  $y_i$  is the mean monthly and  $\bar{y}$  is the mean monthly long-term temperature of the reduced station. Most of the correlation coefficients were satisfactory. Then actual mean monthly temperature anomalies of not less than  $2^\circ$  were selected from the observation series (an absolute value of  $2^\circ$  is considered a well-expressed anomaly). The number of negative anomalies at most stations exceeded the number of positive anomalies.

Anomalously cold or warm months in the high mountains are less common than in the foothills, but in both mountains and foothills the primary climate-forming factor is circulation conditions, manifested as large monthly temperature anomalies, which therefore are a key element in long-range forecasting. Specific local conditions, such as elevation above sea level, create only a certain climatic background, whereas major weather anomalies caused by synoptic processes and their combinations develop approximately identically in different zones above sea level. Orig. art. has: 1 formula and 3 tables.

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ACCESSION NR: AT4016524

ASSOCIATION: Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut (Central Asian Hydrometeorological Scientific Research Institute)

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